

JC10 Rec'd PCT/PTO 23 DEC 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A flux for brazing, in particular for brazing metal components, in which nanoparticles are added to a base material.
2. (Original) The flux as claimed in claim 1, in which the proportion of nanoparticles added is between 0.01% by volume and 10% by volume, in particular between 0.1% by volume and 1% by volume.
3. (Currently amended) The flux as claimed in claim 1 ~~or 2~~, in which the nanoparticles used are nanoscale pigments and/or nanoaggregates dispersed in an organic polymer, known as nanopaints, comprising oxides, oxide hydrates, nitrides and/or carbides of aluminum, silicon, boron and/or transition metals, preferably from transition groups IV and V of the periodic system, and/or cerium and/or coated nanoparticles and/or grafted nanoparticles of the abovementioned substances or compounds and/or carbon nanoparticles.
4. (Original) The flux as claimed in claim 3, in which the proportion of organic polymer in the mixture after drying is between approximately 0.01% by volume and 10% by volume, in particular between 0.1% by volume and 1% by volume.
5. (Currently amended) The flux as claimed in claim 3 ~~or 4~~, in which the polymer used is polyurethanes, synthetic resins, phthalates, acrylates, vinyl resins, silicone resins and/or polyolefins.
6. (Currently amended) The flux as claimed in ~~one of the preceding claims~~ claim 1, in which the base material used is potassium fluoroaluminates with the empirical formula $K_{1-3}AlF_{4-6}$ or potassium and/or cesium fluorostannates with the empirical formulae $KSnF_3$ and $CsSnF_3$.

7. (Currently amended) A process for producing the flux as claimed in ~~one of claims 1 to 6~~ claim 1, in which nanoparticles are produced by dispersion methods or ultrafine wet milling and are added to a base material prior to the brazing process.

8. (Currently amended) A process for producing the flux as claimed in ~~one of claims 1 to 6~~ claim 1, in which nanoparticles are firstly dispersed in an organic polymer and then added as a nanopaint to a base material prior to the brazing process.

9. (Currently amended) A process for brazing metal components, in which the flux as claimed in ~~one of claims 1 to 6~~ claim 1 is used.

10. (Original) A process for brazing metal components, in which starting materials for nanoparticles are added to a base material prior to the brazing process and nanoparticles which are formed by a chemical reaction during the brazing process are deposited on the component surface.

11. (Original) The process as claimed in claim 10, in which the reaction takes place at a temperature in a range between 350°C and 660°C, in particular between 350°C and 600°C, and in a nitrogen atmosphere.

12. (Currently amended) The process as claimed in claim 10 ~~or 11~~, in which the starting materials for nanoparticles used are carbon and/or oxides, oxide hydrates, nitrides and/or carbides of aluminum, silicon, boron and/or transition metals, preferably from transition groups IV and V of the periodic system, and/or cerium.

13. (Currently amended) The process as claimed in ~~one of claims 10 to 12~~ claim 10, in which the base material used is potassium fluoroaluminates with the empirical formula $K_{1-3}AlF_{4-6}$ or potassium and/or cesium fluorostannates with the empirical formulae $KSnF_3$ and $CsSnF_3$.

14. (Currently amended) The use of the flux as claimed in ~~one of claims 1 to 6~~ claim 1 for producing nanocoated components, in particular heat exchangers, based on aluminum or aluminum alloys for the automotive industry.